

19. The method in Claim 1, wherein said piezoelectric/electrostrictive film element is thermally treated at 150-300°C.

20. A piezoelectric/electrostrictive film element produced by a method comprising the steps of :

A) preparing a solution or a dispersed mixture containing constituent ceramic elements by dissolving or dispersing the raw material of constituent ceramic elements in a solvent or dispersion medium;

B) preparing a mixed solution by adding citric acid into said solution or said dispersed mixture in which said constituent ceramic elements are dissolved or dispersed;

C) getting ultrafine ceramic oxide powder of particle size less than 1 μm with uniform particle diameter size distribution by forming ceramic oxide without scattering over, by nonexplosive oxidative-reductive combustion reaction by thermally treating said mixed solution at 100-500°C;

D) preparing a suspension by dispersing said ultrafine ceramic oxide powder in an organic dispersant;

E) preparing ceramic sol solution by dissolving constituent ceramic elements of same or similar constituent with said ultrafine ceramic oxide powder in water or an organic solvent;

F) dispersing by mixing said suspension in which said ultrafine ceramic oxide powder is dispersed with said ceramic sol solution;

G) forming a piezoelectric/electrostrictive film element by submerging a substrate into said suspension which said ultrafine ceramic oxide powder and said ceramic sol solution are mixed and

then by performing electrophoretic deposition; and

H) thermally treating said piezoelectric/electrostrictive film element at 100-600°C,

so that said solvent is removed by said thermal treatment and

the bonding among said ultrafine ceramic oxide powder particles is induced while said ceramic sol acts as a reaction medium on the surfaces of said ceramic oxide particles.

21. The piezoelectric/electrostrictive film element in Claim 20, wherein the method further comprises a step of thermally treating said ultrafine ceramic oxide powder at 700-900°C before D).

22. The piezoelectric/electrostrictive film element in Claim 20 or Claim 21, wherein the method further comprises a step of drying said piezoelectric/electrostrictive film between G) and H).

23. The piezoelectric/electrostrictive film element in Claim 22, wherein said piezoelectric/electrostrictive film is dried at 70-100°C.

24. The piezoelectric/electrostrictive film element in Claim 20, wherein the particle size of said ultrafine ceramic oxide powder is 0.01-0.1 μm .

25. The piezoelectric/electrostrictive film element in Claim 20, wherein said substrate is made of metal, resinous polymeric organic compound, or ceramic.

26. The piezoelectric/electrostrictive film element in Claim 25, wherein said metal is nickel (Ni) or stainless steel.

27. The piezoelectric/electrostrictive film element in Claim

25, wherein said resinous polymeric organic compound is polyester, polyimide, or teflon-based resin.

28. The piezoelectric/electrostrictive film element in Claim 25, wherein said ceramic is alumina (Al_2O_3), zirconia (ZrO_2), silicon (Si), silicon carbide (SiC), silicon nitride (Si_3N_4), silicon dioxide (SiO_2), or glasses.

29. The piezoelectric/electrostrictive film element in Claim 20, wherein said ultrafine ceramic oxide includes lead (Pb), zirconium (Zr) and titanium (Ti).

30. The piezoelectric/electrostrictive film element in Claim 29, wherein said ultrafine ceramic oxide is PZT, PMN or their solid solution (PZT-PMN) complex oxide.

31. The piezoelectric/electrostrictive film element in Claim 30, wherein said ceramic oxide powder further includes one or more element among nickel (Ni), lanthanum (La), barium (Ba), zinc (Zn), lithium (Li), cobalt (Co), cadmium (Cd), cerium (Ce), chromium (Cr), antimony (Sb), iron (Fe), yttrium (Y), tantalum (Ta), tungsten (W), strontium (Sr), calcium (Ca), bismuth (Bi), tin (Sn) and manganese (Mn).

32. The piezoelectric/electrostrictive film element in Claim 20, wherein said organic dispersion medium in which said ultrafine ceramic oxide powder is dispersed is alcohols or acetones.

33. The piezoelectric/electrostrictive film element in Claim 20, wherein the content of said organic dispersant is 1-500 ml per gram of the ultrafine ceramic oxide powder which is dispersed.

34. The piezoelectric/electrostrictive film element in Claim